

E. I. DU PONT DE NEMOURS & COMPANY

Pigments Department

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0013111
Newport, Delaware
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R. J. LOMBARDO
PIGMENTS - WILMINGTON

ENVIRONMENTAL CONTROL - NEWPORT
SOLIDS WASTE DISPOSAL AREA
SOUTH SIDE OF CHRISTINA

Company property south of the Christina River was used for a number of years as a disposal area for ore residues, black ash, and other industrial solid waste by the Newport plant. This practice was terminated in 1954.

We recently collected six grab samples of soil from this area and analyzed them for heavy metals. The results are shown in the attached table. These results were obtained by emission spectrography and are semi-quantitative only. However, the presence of lead in concentrations greater than one percent (three samples), and of zinc in similar concentrations (four samples) is of some concern. In addition, we need to define the level of the other metals shown more accurately. We have therefore started work on the program outlined below:

A. Soil Analyses

We have designed a three-dimensional random sampling program to produce samples of the disposal area at varying depths. The resulting analyses should be statistically significant. Each of the samples will be analyzed for the eight metals, both insoluble and water soluble, shown in the attached table.

B. Christina River Samples

Surface rivulets in the north portion of the disposal area reveal that run-off flows directly to the Christina River. A soil sample (No. 2) from one such dry rivulet bed showed greater than one percent lead in the August 21 tests. We will therefore collect samples from the river and from the river bottom for determination of concentrations of the above metals.

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C. Ground Water Samples

We are pursuing, with ESD consultant assistance, the possibility of sinking well-points in the disposal area to determine the extent of ground water contamination.

With the possible exception of Item C, we anticipate the completion of this program by October 15, 1970. Firm timing on this item cannot be defined at this time, but a goal completion date of November 1 is not unreasonable.

E. L. RODOWSKAS, PLANT MANAGER

Rm Haire

R. M. HAIRE
SUPERVISOR-PROCESS CONTROL

RMH/eww
Attach.

AR200081

WASTE DISPOSAL AREA SOUTH OF CHRISTINA RIVER

ANALYSIS OF SOIL SAMPLES, 8/21/70

<u>Sample No.</u>	<u>Metallies in ppm</u>							
	<u>Hg</u>	<u>Pb</u>	<u>As</u>	<u>Cd</u>	<u>Cu</u>	<u>Cr</u>	<u>Zn</u>	<u>Sb</u>
1	< 100	~ 2,000	< 1,000	< 100	~ 1,000	~ 100	~ 3,000	< 100
2	< 100	> 10,000	< 1,000	~ 100	~ 3,000	~ 200	> 10,000	~ 100
3	< 100	~ 1,000	< 1,000	< 100	~ 1,000	~ 100	~ 2,000	< 100
4	< 100	~ 1,000	< 1,000	~ 100	~ 1,000	~ 100	> 10,000	< 100
5	< 100	> 10,000	< 1,000	~ 100	~ 3,000	~ 100	> 10,000	~ 100
6	< 100	> 10,000	< 1,000	~ 100	~ 3,000	~ 100	> 10,000	~ 100

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